



Module 2: Environmental Sampling

2.7 Data Quality Objectives



Data Quality Objectives

- ♦ Data quality objectives are a planning tool to help ensure that data collected for a study are
 - the right amount
 - the right kind
 - the right quality

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Data Quality Objectives

- ♦ Too often, data are collected based on
 - what's been collected in the past
 - what's easy to collect
 - what's affordable
 - what's familiar
- ♦ rather than focusing on what needs to be done

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Data Quality Objectives

- ♦ The U.S. Environmental Protection Agency developed the data quality objectives process to help organizations plan data collection activities to effectively and efficiently address environmental contamination issues

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Data Quality Objectives

- ♦ State the problem
 - Understand exactly what is being studied and why
 - Often different stakeholders have different views of the problem
 - The time to come to a common understanding is prior to the data collection, not later

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Data Quality Objectives

- ♦ Identify the decision
 - Determine what decisions will be made based on the data

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Data Quality Objectives

- ♦ Identify inputs to the decision
 - Decide what data is needed to make the decisions that need to be made
 - This involves thinking about
 - what variables need to be measured

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Data Quality Objectives

- ♦ Define the study boundaries
 - What is the timeframe for the study
 - What are the spatial boundaries of the study area
 - Three dimensions: length, width, depth

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Data Quality Objectives

- ♦ Develop a decision rule
 - Decide on the action limit by deciding how the data will be analyzed and what result will result in which management actions

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Data Quality Objectives

- ♦ Specify limits on decision errors
 - Two types of decision errors can exist
 - Do nothing when a problem exists
 - Do something when no problem exists
 - Decide what probability of each type of error is acceptable

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Data Quality Objectives

- ♦ Optimize the design

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